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WilmerHale/Columbia University 399 PARK AVENUE NEW YORK, NY 10022			EXAMINER	
			SHAW, PEILING ANDY	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/775,349	<b>Applicant(s)</b> YEMINI ET AL.
	<b>Examiner</b> PELING A. SHAW	<b>Art Unit</b> 2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

1) Responsive to communication(s) filed on 26 November 2007.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-31 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-21 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) 1-31 are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 26 November 2007 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

#### **DETAILED ACTION**

1. Amendment received on 11/26/2007 has been entered into record. Claims 1, 3, 8, 11, 16 and 18 are amended. Claims 22-31 are new. Claims 1-31 are currently pending.

2. Applicant's submission filed on 03/16/2007 was entered. Claims 1, 3, 8, 11, 16 and 18 were amended.

3. Amendment received on 06/08/2006 was entered into record. Claims 1-3, 5-8, 11 and 16-18 were amended. Claim 21 was new.

#### ***Priority***

4. This application is claims priority to Provisional Application Serial No. 60,179,884, filed 02 February 2000, and to Provisional Application Serial No. 60/216,403, filed 06 July 2000. The filing date is 02/01/2001.

#### ***Election/Restriction***

5. Amended independent claims 1, 3, 8, 11, 16 and 18. recite the limitations of “to at least one origin”, “wherein a Link is a connection between two Nodes or between a Node and the at least one origin”, “at least a part of at least one of said at least one label of”, “including at least a third Node between said source Node and said destination Node” and “that includes at least a third Node between said first Node and said second Node” that are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: applicant claims among other limitations the limitations of “a link includes a origin”, “a link include a third node” and “combining at least a part of at least one of said one label of one of said coordinate labels ... and at least a part of at least one of said one label of one of said coordinate labels ...” as recited in independent claims 1, 3, 8, 11, 16 and 18. These functional

limitations directed to links must explicitly include an origin or a third node and the combining of labels must include parsing the labels and aggregating the labels. Those are not claimed in the original claim set. Applicant further adds new dependent claims 22-31 reciting the limitations of “wherein the origin is an origin node ...”, “wherein the origin is a location ...”, “removing a common part ...”, “reversing the order ...” that “... connected to a particular node is unique from ...” that are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: applicant claims among other limitations the further definitive descriptions on new subject matter concerning “origin” and further new subject matters on “removing a common part”, “reversing the order” and “uniqueness due a connection to a particular node”. Those are also not suggested or claimed in the original claim set.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, the amendments to independent claims 1, 3, 8, 11, 16, 18 and newly added claims 22-31 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 112, second paragraph***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph as following:

a. Claim 18 recites the limitations of “said first Node and said second Node” and “said source Node”. There are insufficient antecedent basis for these limitation in the claim. For the purpose of applying art, claim 18 is read as with the limitations of “said Node

and said destination Node ..." and "said Node" instead of "said first Node and said second Node" and "said source Node".

Clarification and/or correction are required.

***Claim Rejections - 35 USC § 112, first paragraph***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-31 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. Independent claims 1, 3, 8, 11, 16 and 18 are amended with the limitations of "to at least one origin", "wherein a Link is a connection between two Nodes or between a Node and the at least one origin", "at least a part of at least one of said at least one label of", "including at least a third Node between said source Node and said destination Node" and "that includes at least a third Node between said first Node and said second Node" that are not described as per applicant's original specification or claim language in sufficient detail. It thus brings new subject matters to the application and are not allowed under 35 U.S.C. § 112, first paragraph. It would cause undue experimentation to one of ordinary skill in the art to make Applicant's invention. Other claims, i.e. claims 2, 4-7, 9-10, 12-15, 17 and 19-31 depend upon

these claims are rejected as well for the same reason. For the purpose of applying art, the claim language is read with the consideration of these above limitations.

Clarification and/or correction are required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al. (US 5870564 A), hereinafter referred as Jensen.

a. Regarding claim 1, Jensen disclosed a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each of said coordinate labels representing a path to at least one origin (column 7, lines 54-57: initial position at a node or granule) comprising one or more Links, wherein a Link is a connection between two Nodes or between a Node and the at least one origin (column 12, lines 58-60: initial granule and a destination or terminal granule), and each of said coordinate labels including at least one label that each identify a corresponding one of said one or more links in said path (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18,

lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined by combining at least a part of at least one of said at least one label of one of said coordinate labels assigned to said first Node and at least a part of at least one of said at least one label of one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, lines 20-30: combine granules, supermolecule; column 6, lines 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology); and (d) said first Node stores the set of one or more coordinate labels (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential

paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e).

- b. Regarding claim 2, Jensen disclosed the network of claim 1 wherein said first Node reroutes any data intended for said second Node in the event said second Node moves or fails (column 1, line 59-column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28: optimal dynamic path).
- c. Regarding claim 16, Jensen disclosed a method for determining a path from a source Node to a destination Node in a network comprising a plurality of Nodes interconnected by Links, said Nodes including a first Node, and a plurality of second Nodes, said second Nodes including said source Node and said destination Node, said method comprising (abstract; column 17, lines 27-38; column 22, lines 50-60): (a) assigning to each of said second Nodes one or more coordinate labels, each coordinate label representing a path comprising one or more Links through said network from one of said plurality of second Nodes to which it is assigned to said first Node, and each of said coordinate labels including at least one label that each identify a corresponding one of said one or more links in said path (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by

virtue of the favorable potential edges 182c, 182d, and 182e); (b) determining a path from said source Node to said destination Node including at least a third Node between said source Node and said destination Node by combining at least a part of at least one of said at least one label of one coordinate label of said source Node and at least a part of at least one of said at least one label of one coordinate label of said destination Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, lines 20-30: combine granules, supermolecule; column 17, lines 27-38: source and destination; column 22, lines 50-60: finding a path between first and last points); and (c) at one of said plurality of second Nodes, storing one or more coordinate labels of a another said plurality of second Nodes that is adjacent to said one of said plurality of second Nodes (column 13, lines 1-8; column 14, lines 13-21: router).

- d. Regarding claim 17, Jensen disclosed the method of claim 16 further comprising, at said one of said plurality of second Nodes, rerouting data intended for said another of said plurality of second Nodes in the event that one or more links and/or Nodes between said one of said plurality of second Nodes and said another said plurality of second nodes prevents communication between said one of said plurality of second Nodes and said another plurality of second nodes (column 4, lines 25-44: determining

an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 13, lines 1-8; column 14, lines 13-21: router).

e. Regarding claim 18, Jensen disclosed a Node for use in a network, said network comprising a plurality of Nodes connected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) said Node for use in said network has one or more coordinate labels assigned to said node, each coordinate label representing a path comprising one or more Links from said Node to a particular other Node of said network that includes at least a third Node between said first Node and said second Node, each of said coordinate labels being unique to said Node, each of said coordinate labels including a label that identifies each of said one or more Links in said path, said Node routes data to a destination Node via a path that includes at least a third Node between said first Node and said second Node determined by combining at least a part of at least one of said at least one label of one of said coordinate labels assigned to said Node and at least a part of at least one of said at least one label of one of said coordinate labels assigned to said destination Node (abstract; column 4, lines 25-44: determining an improved path, evaluate a path

segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, lines 20-30: combine granules, supermolecule; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 17, lines 27-38: source and destination; column 22, lines 50-60: finding a path between first and last points; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); and (b) said Node stores one or more coordinate labels corresponding to an adjacent Node (column 13, lines 1-8; column 14, lines 13-21: router).

- f. Regarding claim 19, Jensen disclosed the Node of claim 18 wherein said Node reroutes any data intended for said adjacent Node in the event said adjacent Node is moved to a different location (column 1, line 59-column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28: optimal dynamic path).
- g. Regarding claim 20, Jensen disclosed the Node of claim 18 wherein said Node reroutes any data intended for said adjacent Node in the event said adjacent Node is unable to receive said packet (column 1, line 59-column 2, line 19: router may go

down, need to route message in a way to accommodate; column 8, lines 18-28; optimal dynamic path).

h. Regarding claim 21, Jensen disclosed the network of claim 1 wherein said first Node reroutes any data intended for said second Node in the event said that one or more Links and/or Nodes between said first Node and said second Node prevents communication between said first Node and said second Node (column 1, line 59-column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28; optimal dynamic path).

Jensen disclosed all limitations of claims 1-2 and 16-21. Claims 1-2 and 16-21 are rejected under 35 U.S.C. 102(b).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US 5870564 A), hereinafter referred as Jensen, in view of Denman et al. (US 6490451 B1), hereinafter referred as Denman.

a. Jensen shows (claim 3) a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144; connectors; column 6, lines 38-44; communication links, edges, connectors; column 14, line 62-column 15, line 2;

connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each of said coordinate labels representing a path to at least one origin (column 7, lines 54-57; initial position at a node or granule) comprising one or more Links, wherein a Link is a connection between two Nodes or between a Node and the at least one origin (column 12, lines 58-60; initial granule and a destination or terminal granule), and each of said coordinate labels including at least one label that each identify a corresponding one of said one or more links in said path (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined by combining at least a part of at least one of said at least one label of one of said coordinate labels assigned to said first Node and at least a part of at least one of said at least one label of one of said coordinate labels assigned to said second Node (column 4, lines 25-44; determining an improved path, evaluate a path segment by assessing the benefit of a

net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, lines 20-30: combine granules, supermolecule; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology). Jensen does not show (claim 3) at least one of said plurality of Nodes is automatically replicated to create at least one mirror Node.

- b. Denman shows (claim 3) at least one of said plurality of Nodes is automatically replicated to create at least one mirror Node (column 8, lines 2-10) in an analogous art for the purpose of providing packet-switched telephony.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Jensen's functions of dynamically providing a path through a network of nodes or granules with Denman's functions of replicating node services.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to extend dynamic path provision through networks per Jensen's teaching to service replication per Denman's teaching for scalability, reliability, survivability and minimizing backhaul of bearer and signaling data across packet-switched network per Denman (column 8, lines 2-4).

- e. Regarding claims 4 and 5, Denman shows where said at least one mirror Node is mobile and where said at least one of said plurality of Nodes that is automatically replicated is mobile (Fig. 2; column 8, lines 2-10).
- f. Regarding claim 6, Denman shows where said at least one of said plurality of Nodes that is automatically replicated is a part of the World Wide Web (column 5, lines 23-45).
- g. Claim 7 is of the same scope as claim 3. It is rejected for the same reasons as for claim 3.
- h. Regarding claim 11, Jensen shows a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each of said coordinate labels representing a path to at least one origin (column 7, lines 54-57: initial position at a node or granule) comprising one or more Links, wherein a Link is a connection between two Nodes or between a Node and the at least one origin (column 12, lines 58-60: initial granule and a destination or terminal granule), and each of said coordinate labels including at least one label that each identify a corresponding one of said one or more links in said path (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a

potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65- column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined by combining at least a part of at least one of said at least one label of one of said coordinate labels assigned to said first Node and at least a part of at least one of said at least one label of one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, lines 20-30: combine granules, supermolecule; column 6, line 65- column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology). Denman shows said first Node is a mobile Node (Fig. 2; column 8, lines 2-10).

- i. Regarding claim 12, Denman shows where said mobile Node is a PDA (column 3, lines 40-67).

j. Regarding claim 13, Denman shows where said mobile Node is a cellular telephone (column 5, lines 3-22).

k. Regarding claim 14, Denman shows where said mobile Node is a laptop computer (Fig. 2; column 8, lines 2-10).

Together Jensen and Denman disclosed all limitations of claims 3-7 and 11-14. Claims 3-7 and 11-14 are rejected under 35 U.S.C. 103(a).

10. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US 5870564 A), hereinafter referred as Jensen, in view of Heddya et al. (US 6622157 B1), hereinafter referred as Heddya.

a. Jensen shows (claim 8) a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44; communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each of said coordinate labels representing a path to at least one origin (column 7, lines 54-57: initial position at a node or granule) comprising one or more Links, wherein a Link is a connection between two Nodes or between a Node and the at least one origin (column 12, lines 58-60: initial granule and a destination or terminal granule), and each of said coordinate labels including at least one label that each identify a corresponding one of said one or more links in said path (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and

underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65- column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined by combining at least a part of at least one of said at least one label of one of said coordinate labels assigned to said first Node and at least a part of at least one of said at least one label of one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, lines 20-30: combine granules, supermolecule; column 6, line 65- column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology). Jensen does not show (claim 8) automatically creates at least one cache and redirects a data request to said at least one cache.

- b. Heddaya shows (claim 8) automatically creates at least one cache and redirects a data request to said at least one cache (column 8, lines 5-18 and 33-53) in an analogous art for the purpose of extending network services using mobile agents.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Jensen's functions of dynamically providing a path through a network of nodes or granules with Heddaya's functions of local cache.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to extend dynamic path provision through networks per Jensen's teaching to using multiple nodes to fulfill service requests per Heddaya's teaching (column 3, lines 44-64).
- e. Regarding claims 9 and 10, Heddaya shows where said at least one cache is mobile and where said at least one cache contains a load from a mobile Node (column 8, lines 5-18 and 33-53).

Together Jensen and Heddaya disclosed all limitations of claims 8-10. Claims 8-10 are rejected under 35 U.S.C. 103(a).

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US 5870564 A), hereinafter referred as Jensen, and Denman et al. (US 6490451 B1), hereinafter referred as Denman, and further in view of Chennakeshu et al. (US 6542758 B1), hereinafter referred as Chennakeshu.

- a. Jensen and Denman show claim 11 as above. Jensen and Denman do not show (claim 15) where said mobile Node is a router located on a vehicle.

- b. Chennakeshu shows (claim 15) where said mobile Node is a router located on a vehicle (Fig. 11; column 7, lines 39-47) in an analogous art for the purpose of distributed radio telephone for use in a vehicle.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Jensen's functions of dynamically providing a path through a network of nodes or granules with Chennakeshu's functions of using a radio phone in a vehicle.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to extend dynamic path provision through networks per Jensen's teaching to service replication per Denman's teaching for scalability, reliability, survivability and minimizing backhaul of bearer and signaling data across packet-switched network per Denman (column 8, lines 2-4) and to a vehicle based network per Chennakeshu's teaching (column 7, lines 39-47).

Together Jensen, Denman and Chennakeshu disclosed all limitations of claim 15. Claim 15 is rejected under 35 U.S.C. 103(a).

***Response to Arguments***

12. Applicant's arguments filed on 11/26/2007 have been fully considered, but they are not persuasive.

- a. Applicant has made substantial changes the claim set including new subject matter concerning the limitation of using "origin" and combining labels in independent claims 1, 3, 8, 11, 16 and 18. Applicant has further expanded these two limitations with new claims 22-31. Examiner has reviewed the amended claim changes and determined the scope of amended claim changes go beyond the original claim set with new and unclear subject matters. Restriction and rejections under 35 U.S.C. § 112, first paragraph are raised as above.
- b. Applicant has argued similarly as per amendment dated 03/16/2007 with additional citation of new amended limitations of "to at least one origin" and "wherein a Link is a connection between two Nodes or between a Node and the at least one origin". Examiner has rejected the amended claim changes under 35 U.S.C. § 112, first paragraph. However, examiner does review claim rejections with the consideration of amended claim changes and applied prior art, particularly Jensen. Examiner has further searched and identified additional potential arts, i.e. Oba, Lakshman and Glenn in address amended claim changes as noted in the Remark section below. Examiner has further reviewed the Response to Arguments as per office action dated 07/24/2007 with the consideration of amended claim changes. The Response should still apply the current claim set. On the limitation of "to at least one origin" and "wherein a Link is a connection between two Nodes or between a Node and the at

least one origin", Jensen has disclosed (column 7, lines 54-57) an initial position at a node or granule and (column 12, lines 58-60) an initial granule and a destination or terminal granule. On the limitation of combining labels for a path, Jensen has disclosed (column 6, lines 20-30) combing granules or having supermolecule to cover multiple nodes.

- c. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior arts. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see items a, c and e in section 8, items a-d and h in section 9, and items a-d in section 10). Applicant is advised to amend the claim language within the scope of original claimed invention to include specific features from the original specification and claim language that would distinguish applicant's invention over the cited prior arts above in the rejection sections and the Remarks section below.

*Remarks*

13. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

a. Bosack (US 5088032 A) Method and apparatus for routing communications among computer

b. Yamazaki (US 5655134 A) Network structure storing and retrieval method for a data processor

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c. Glenn et al. (US 6043825 A) Method of displaying 3D networks in 2D with out false crossings

d. Lakshman et al. (US 6341130 B1) Packet classification method and apparatus employing two fields

e. Oba et al. (US 6529958 B1) Label switched path set up scheme with reduced need for label set up retry operation

f. Beshai et al. (US 6667956 B2) Multi-class network

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g. Aggarwal et al. (US 6717921 B1) Method for configuring a shared tree for routing traffic in a multicast conference

h. Oltman et al. (US 6785226 B1) System and method for data routing over a network

i. McCanne (US 6785704 B1) Content distribution system for operation over an internetwork including content peering arrangements

j. Ogier et al. (US 20020012320 A1) Mobile ad hoc extensions for the internet

***Conclusion***

14. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/P. A. S./  
Examiner,  
Art Unit 2144  
/William C. Vaughn, Jr./  
Supervisory Patent Examiner, Art Unit 2144